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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,166	06/25/2001	Chun-Ching Lin	200-0497/24061.330	8185

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EXAMINER
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NGUYEN, MERILYN P

ART UNIT	PAPER NUMBER
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2163

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/888,166	<b>Applicant(s)</b> LIN ET AL.	
	<b>Examiner</b> Merilyn P. Nguyen	<b>Art Unit</b> 2163	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> .                  |

### **DETAILED ACTION**

1. In response to the communication dated 07/10/2006, claims 1-27 are active in this office action.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/12/2006 has been entered.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the method steps of claims 1-13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 6, 7, 14, 19-20 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, line 10, and claim 14, line 10, the claim recites, "if the file transactions indicate a change in the non-relational data". There is insufficient antecedent basis for "the file transactions. It's unclear whether " the file transactions" is the file transactions **polled from a transaction log file** of a non-relational database or the file transactions of the non-relational database detected since the steps of polling and detecting do not seem to be related.

Regarding claims 6 and 19, the claim recites "a next transaction record"; however, there is no transaction record described at all in claims 1, 4, and 5. Thus the Examiner is confused by the term "next transaction record". Further more, the claim recites, "determining from the configure file if the next transaction record is to be at least one of deleted, put, and updated in the at least one relational database". The Examiner does not know what is included or excluded by

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the claimed language. For example, the determining step claim 1 recites, “determining if the file transactions indicate a change in **the non-relational database**”; however, the determining step of claims 6 and 19 which depend on claims 1 and 14, recites changes in the relational database. Also, “the next transaction record is to be at least one of deleted, put, and updated” render the claimed indefinite because it’s incomplete as to what is “at least one of deleted, put, and updated”.

Regarding claim 7 and 20, the claim recites, “wherein more than one of the at least one data replication server update one of the at least one relational database at a same time”. The term “more than one” is contradicted with the term “at least one”, for compact prosecution, the Examiner treats “more than one of the at least one data replication server” as at least one data replication server as addressed in claim 1 and 14.

Regarding claim 27, the claim recites, “wherein more than one of the at least one data replication server update more than one of the at least one relational database at a same time”. The term “more than one” is contradicted with the term “at least one”, for compact prosecution, the Examiner treats it as “at least one data replication server” and “at least one relational database”.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 2, 4, 7-12, 14-15, 17, 20-24 and 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin (US 6,029,178).

Regarding claim 1, Martin discloses a computer-based method of data replication of data in a programmable computer system (See col. 5, lines 10-66) comprising the steps of:

- polling a transaction log file (See col. 12, lines 6-16) of a non-relational database (“non-relational source database”, col. 15, lines 3-5) of a proprietary system (Fig. 7 or 8) at a time interval (“scheduled”, See col. 17, lines 43-58) for file transactions of the non-relational database (“Change data is applied to a source database...captures the change data...stores...EDM log”, See col. 18, lines 10-30) by at least one data replication server not running the non-relational database (EDM server 804A, Fig. 26);
- responsive to detecting file transactions of the non-relational database, reading the file transactions from the transaction log file of the non-relational database by the at least one data replication server and determining if the file transactions indicate a change in the non-relational database (See col. 12, lines 33-44, and col. 18, lines 31-35, and col. 19, lines 38-49); and
- if the file transactions indicate a change in the non-relational database, sending the file transactions from the at least one data replication server to at least one relational database (See col. 12, lines 54-65, col. 15, lines 2-24, col. 18, lines 31-35 and col. 19, lines 62-66), wherein the file transactions of the non-relational database sent to the at least one relational database are accessible in real time (See col. 23, lines 45-54, wherein changed data is propagated/moved to target database at a 24 hour 7 days a

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week process, thus file transactions are accessible in real time. Please see also col. 8, lines 18-23, 44-48 and 54-57).

Regarding claims 2 and 15, Martin discloses wherein the file transactions sent from the at least one data replication server to the at least one relational database are sent via respective relational database connections utilizing a relational database access protocol (See col. 15, lines 57-60).

Regarding claims 4 and 17, Martin discloses wherein the reading step comprises:

- retrieving a configure file indicating from which table of the non-relational database is data to be replicated and to which of the at least one relational database is data to be replicated (See col. 15, lines 25-31);
- initializing a configure value (See col. 15, lines 33-42); and
- connecting to the at least one relational database (See col. 15, lines 33-42).

Regarding claims 7, 20 and 27, Martin discloses more than one of the at least one data replication server (EDM server 804, Fig. 26) update one of the at least one relational database (See Fig. 10, DBMS Target including DB2, Oracle, Sybase, and Informix SQL server) at a same time (col. 12, lines 53-54, and col. 19, line 62 to col. 20, line 3).

Regarding claims 8 and 21, Martin discloses wherein the at least one relational database is accessible using an end user query tool (See col. 15, lines 33-35).

Regarding claims 9 and 22, Martin discloses wherein the at least one relational database generates at least one real time report (See col. 29, lines 26-35).

Regarding claims 10 and 23, Martin discloses wherein reading step is performed using at least one data extraction function of the proprietary system (Extract block 202, Fig. 2 and corresponding text).

Regarding claims 11 and 26, Martin discloses sending a real time equipment status from the at least one data replication server to the at least one relational database (See col. 23, lines 46-60).

Regarding claims 12 and 24, Martin discloses change in the non-relational database comprises a change in a field of a table of the non-relational database (See col. 10, lines 30-43).

Regarding claim 14, Martin/Dingman discloses a data processing computer-based system (See Figs. 1-4 and Figs. 12-13) having polling means, reading means and sending means for polling, reading and sending steps of claims 1.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (US 6,029,178), in view of Applicant's Admitted Prior Art (Specification page 8, last paragraph, line 6 to page 9, begin with "the relational database connections 26" and end with "respectively").

Regarding claims 3 and 16, discloses all the claim subject matter as set forth above in claims 1 and 14. However, Martin is silent as to the at least one relational database being relational database selected from the group consisting of: an Engineer Data Analysis (EDA) relational database, and a Manufacture Execution System (MES) relational database. Applicant admits that an EDA relational database, a MES relational database was known at the time the invention was made. Since an Engineer Data Analysis (EDA) relational database, and a Manufacture Execution System (MES) relational database was readily available, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use the well known EDA relational database, MES relational database as disclosed by Applicant's Admitted Prior Art as the relational database of Martin. The resultant use of the EDA relational database, the MES relational database would have performed the intended (by Martin) function, without undue experimentation and with expected and obvious result (See applicant's specification, page 8, last paragraph, line 6 to page 9, "the relational database connections 26...respectively").

7. Claims 5, 6, 13, 18, 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (US 6,029,178), in view of Draper (US 6,192,365).

Regarding claims 5 and 18, Martin discloses all the claimed subject matter as set forth above and further teaches opening the transaction log file (See col. 19, lines 38-49, Martin et al.). However, Martin is silent as to retrieving a last applied transaction log sequence number from a last update file and locating a last applied record based on the last applied transaction log sequence number. On the other hand, Draper teaches retrieving a last applied transaction log sequence number from a last update file and locating a last applied record based on the last applied transaction log sequence number (See col. 37, lines 13-22, Draper et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include transaction log sequence number into the system of Martin and locating a last applied record based on the last applied transaction log sequence number as taught by Draper. The motivation would have been to enable to restore prior versions of data using log sequence number.

Regarding claims 6 and 19, Martin/Draper discloses wherein determining step comprises:

- retrieving a next transaction record;
- determining if a record type of the next transaction record is one of a delete, put, and update; and
- determining from the configure file if the next transaction record is to be at least one of deleted, put, and updated in the at least one relational database.

See col. 5, lines 35-66, Martin et al.

Regarding claims 13 and 25, Martin/Draper discloses wherein the determining step further comprises writing the transaction log sequence number to the last update file (See col. 37, lines 13-22, Draper et al.).

***Response to Arguments***

8. Applicant's arguments filed 07/10/2006 have been fully considered but they are not persuasive.

**Response to Applicants remarks on 35 USC § 102(e) rejection as anticipated by Martin:**

***Applicants argue:***

Martin does not teach “responsive to detecting file transactions of the non-relational database, reading the file transactions from the transaction log file of the non-relational database by the at least one data replication server and determining if the file transactions indicate a change in the non-relational database”...Contrary to reading the file transactions from the transaction log of the non-relational database, Martin stores the file transactions to a separate log file, which is later read and processed by the EDM logger.

***Examiner responds:***

Examiner is not persuaded. Applicant argues feature not claimed, e.g. transaction log file should not be separated. Transaction log file of Martin is the transaction log file of the non-relational database.

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Examiner maintains that the following disclosure, Martin column 18, lines 17-35 , reads on the claimed limitation “reading the file transactions from the transaction log file of the non-relational database”.

*Applicants argue:*

Martin fail to discloses “more than at least one data replication server update one of the at least one relational database at a same time”.

*Examiner responds:*

The claimed recitation is “more than one of the at least one data replication server update one of the at least one relational database at a same time”. As addressed above in the 112 second paragraph rejection, the term “more than one” is contradicted with the term “at least one”, for compact prosecution, the Examiner treats “more than one of the at least one data replication server” as at least one data replication server.

**Response to Applicants remarks on 35 USC § 103(a) rejection as being unpatentable over Martin and further in view of the alleged Applicant’s admitted prior art:**

*Applicants argue:*

Applicants state in the second paragraph of page 13, “Applicants do not disclose the features as recited in claims 1 and 14, from which claims 3 and 16 depend”.

*Examiner responds:*

Examiner is not persuaded.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on

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combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument, *a prima facie case of obviousness* is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. Once such a case is established, it is incumbent upon appellant to go forward with objective evidence of unobviousness. *In re Fielder*, 471 F.2d 640, 176 USPQ 300 (CCPA 1973).

**Response to Applicants remarks on 35 USC § 103(a) rejection as being unpatentable over Martin and further in view of Draper:**

*Applicants argue:*

Draper does not mention anything about reading file transactions from a transaction log file of a non-relational database or determining if the file transactions indicate a change in the non-relational database.

*Examiner responds:*

Examiner is not persuaded.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

*Applicants argue:*

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The Examiner's combination arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claims 1 and 14.

*Examiner responds:*

Examiner is not persuaded.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marilyn P Nguyen whose telephone number is 571-272-4026.

The examiner can normally be reached on M-F: 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-746-7240 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



MN

August 16, 2006



**JYEN LE**  
**PRIMARY EXAMINER**